Figure 1

Figure 2

Figure 3

Figure 4A
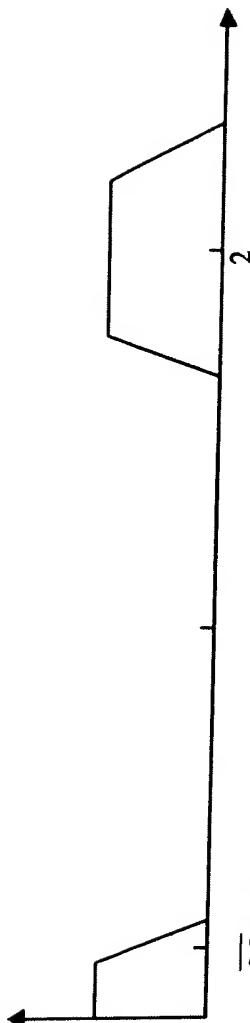
Figure 4B
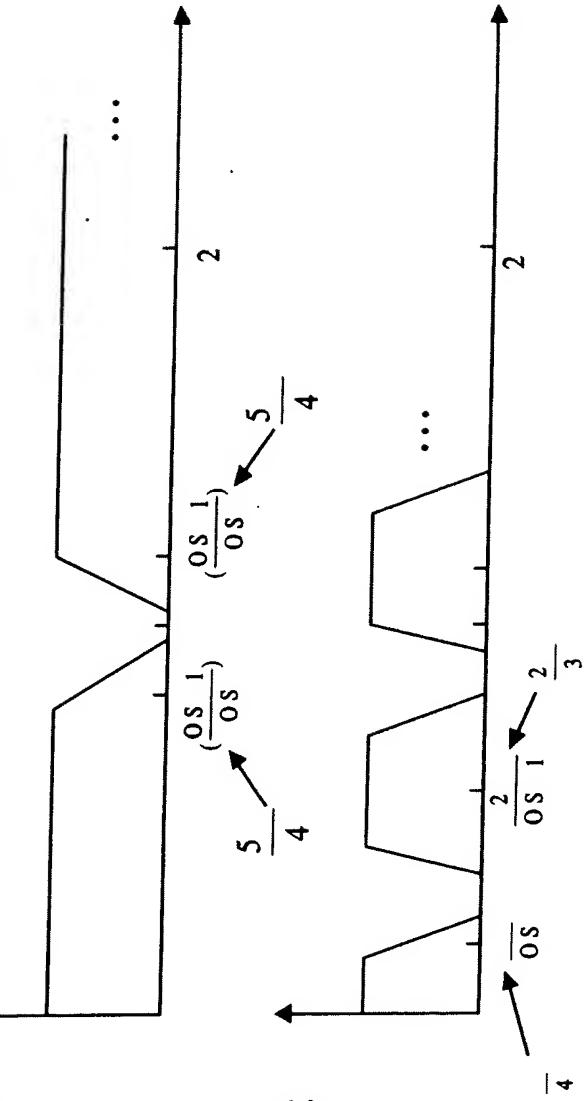
Figure 4C
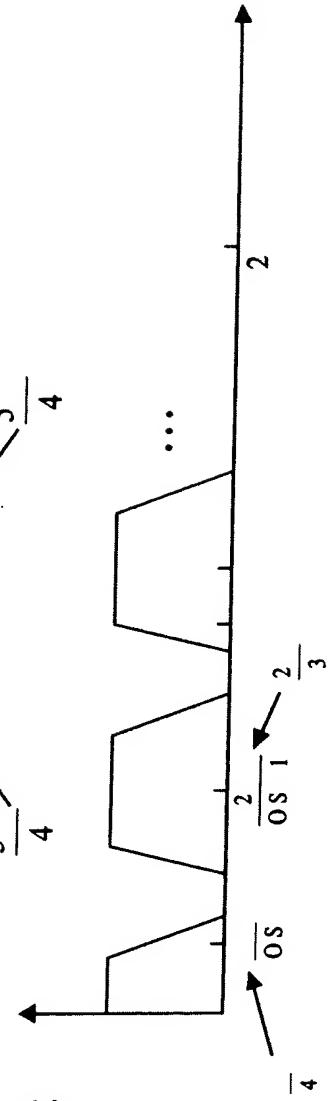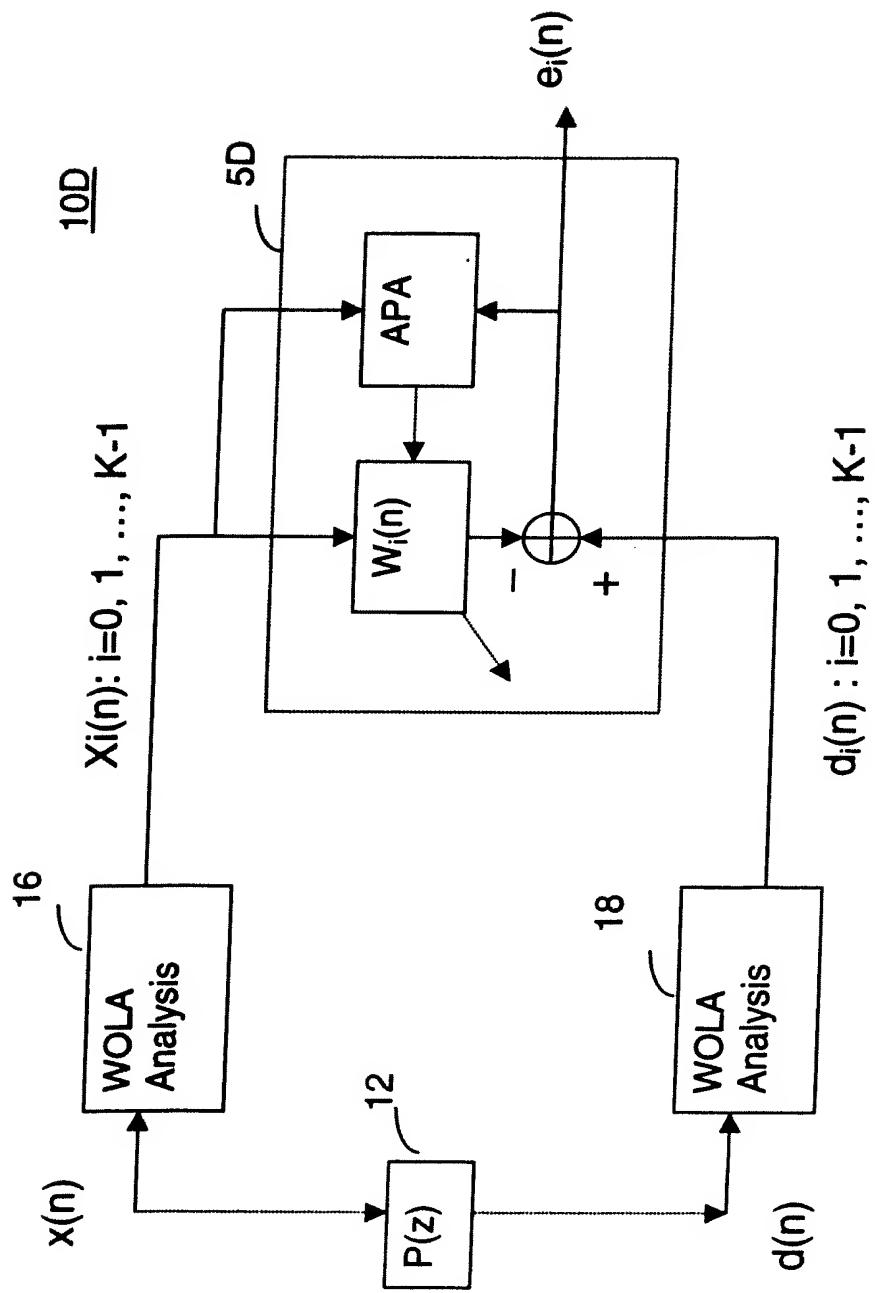
Figure 5
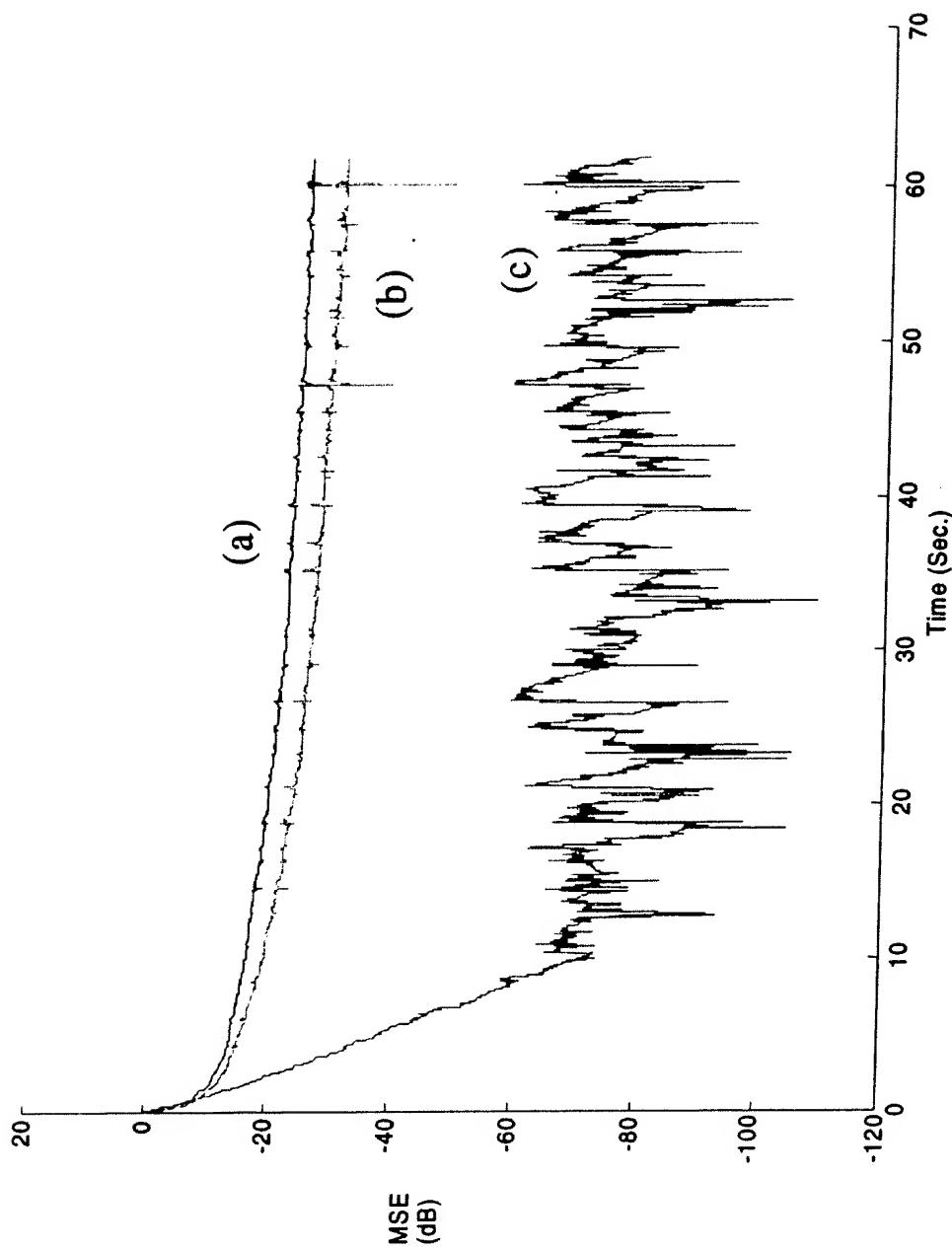
Figure 6
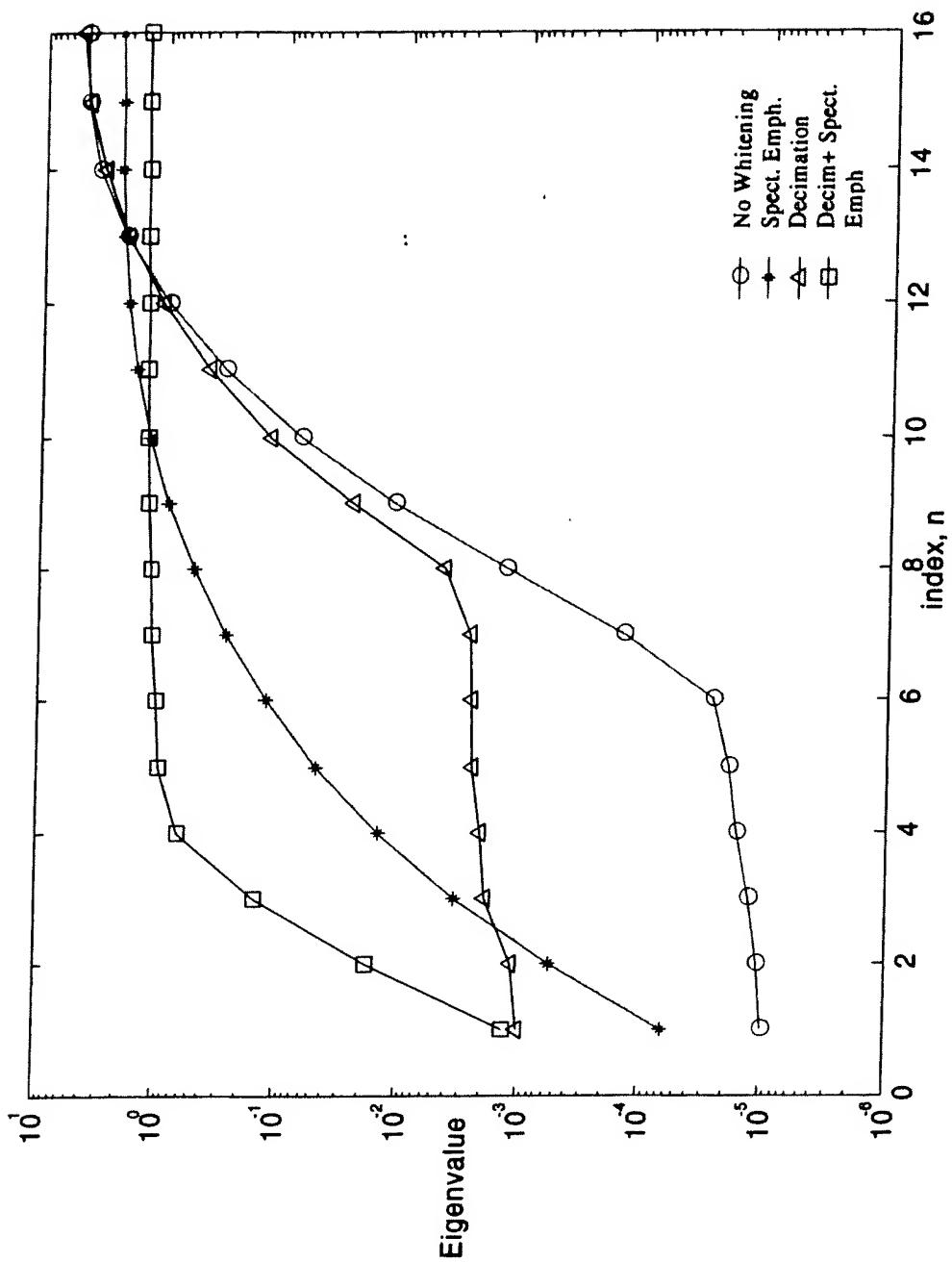
Figure 7

Figure 8

Figure 9

Near End

NE Speaker

106

108

FE Echo

112

NE Input

NE MIC

110

d(t)

x(t)

118

Adaptive Filter

−

+

114

e(t)

116

FE Speaker

102

104

FE MIC

FE Input

Far End
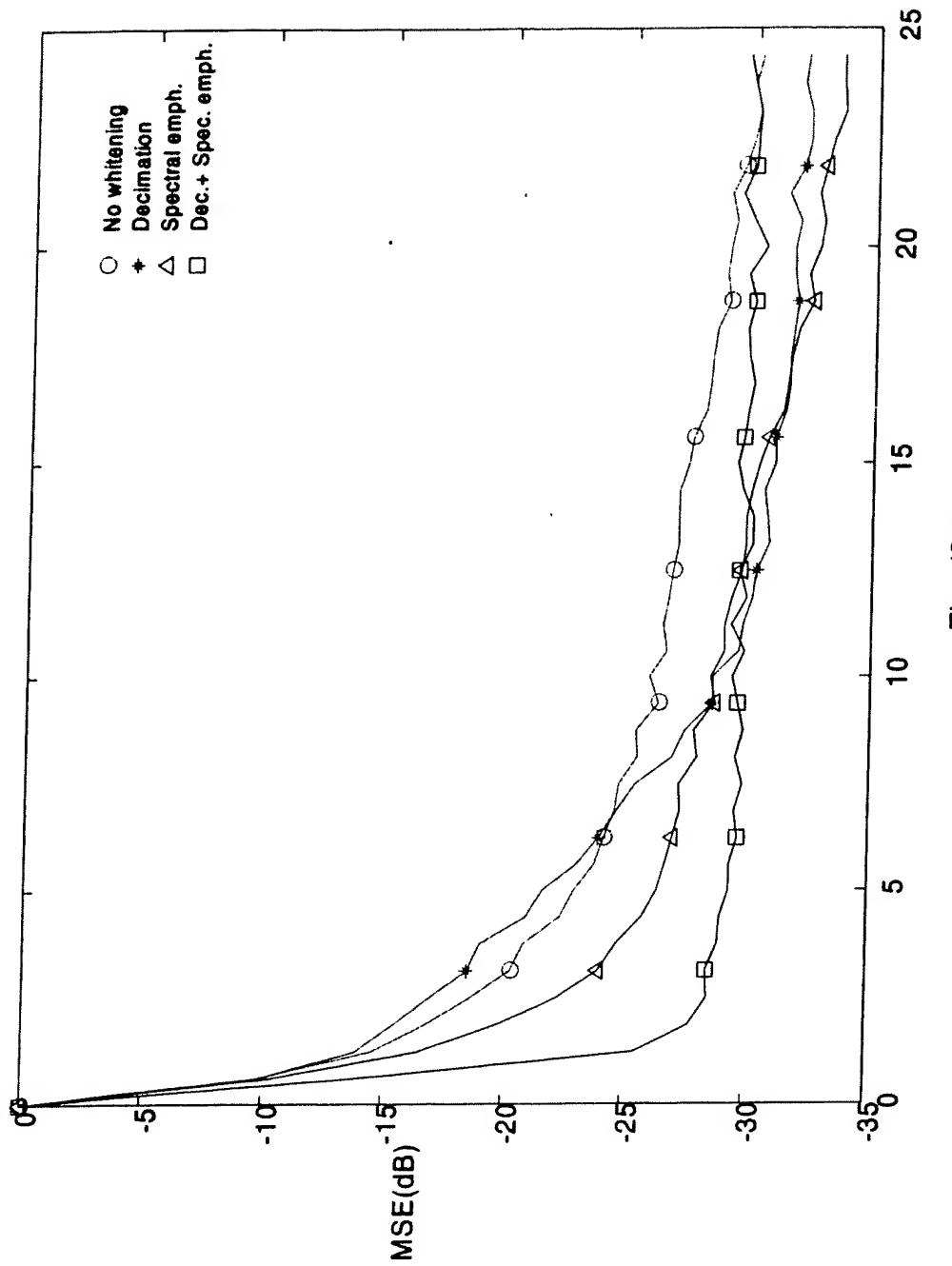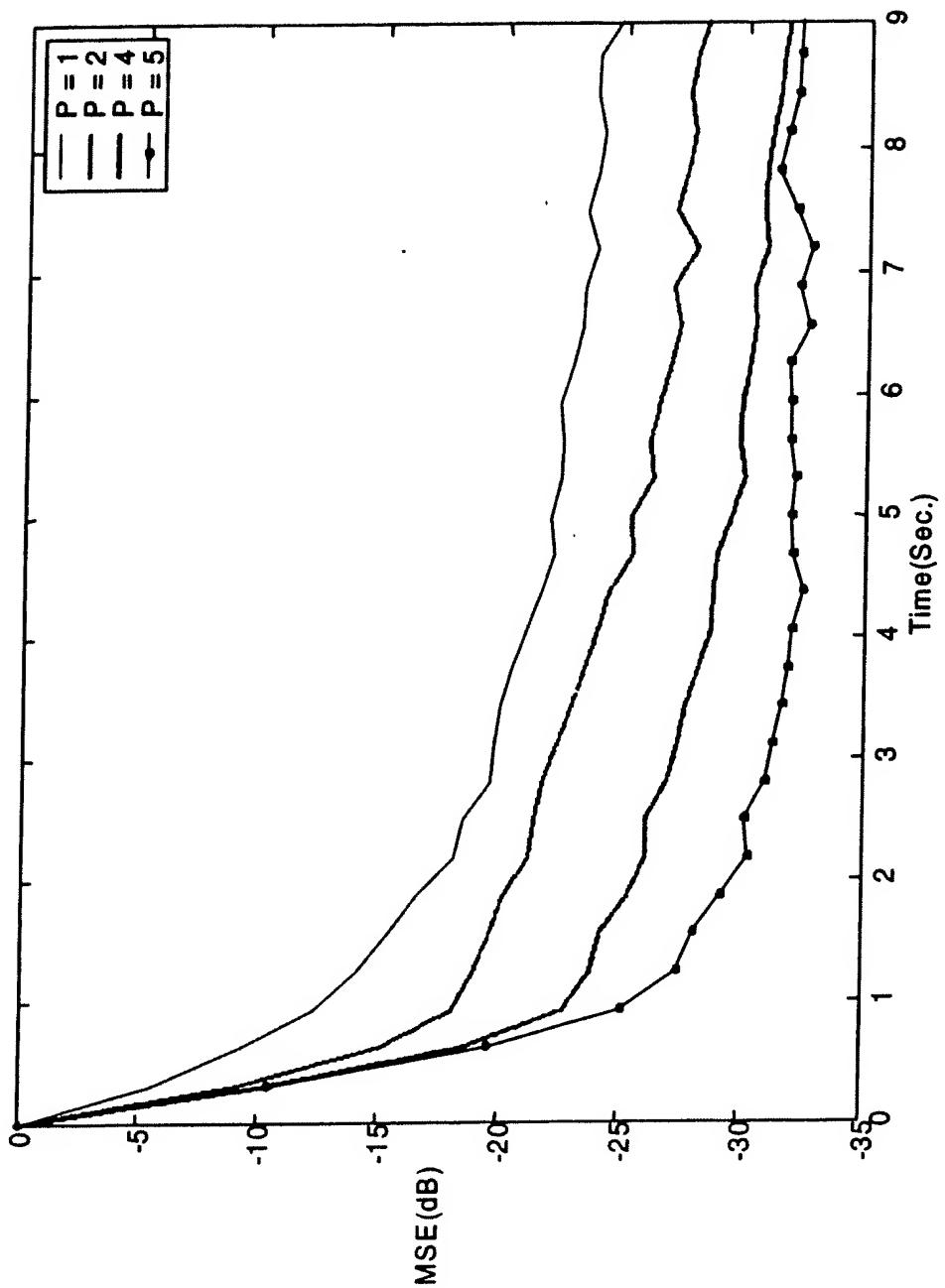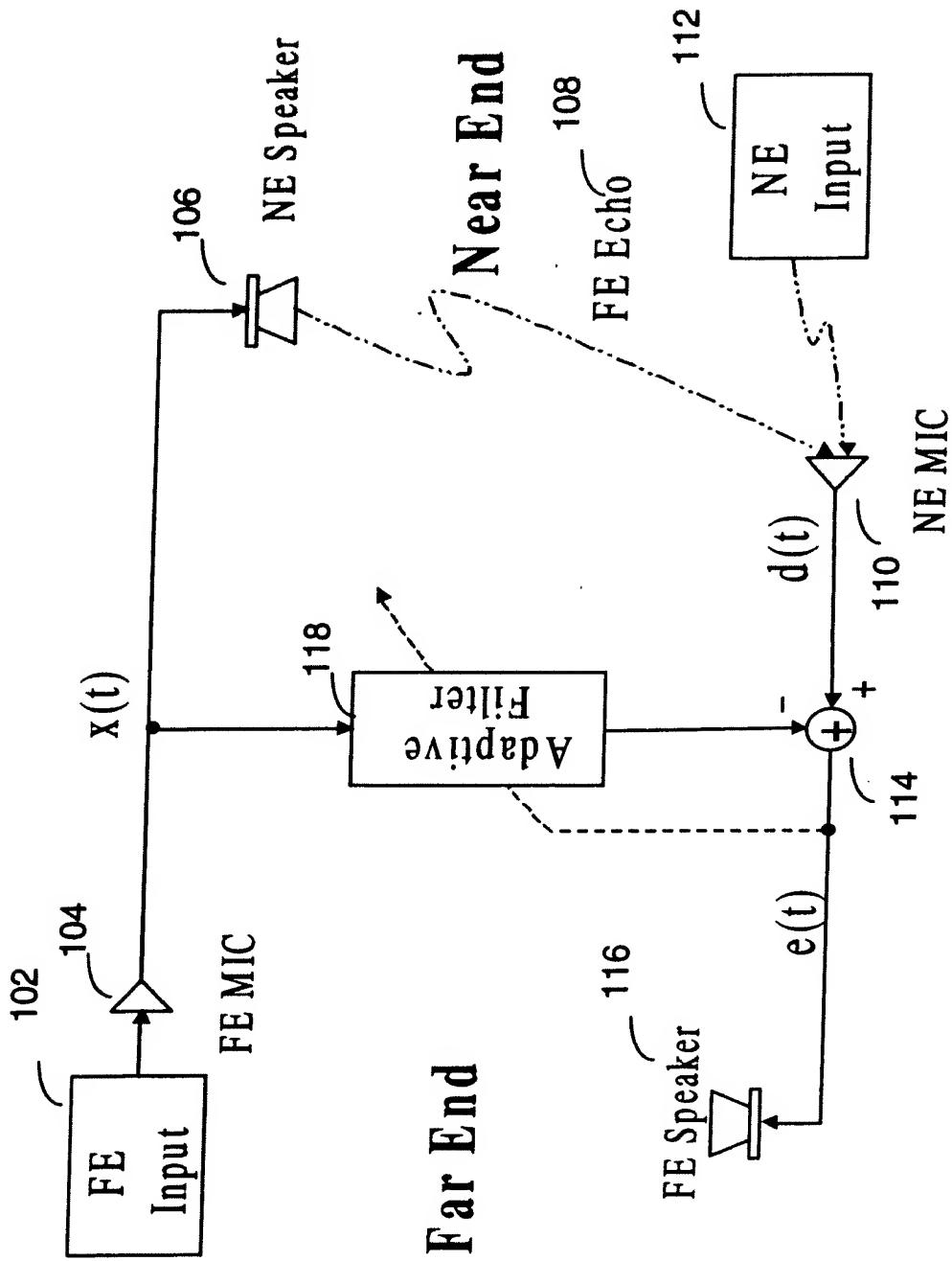
Figure 10

Figure 11

Figure 12

130

$x_i(n)$

118

NE

Adaptive Filter

$d_i(n)$

114

$-$

$+$

DTD 140B

FE VAD

146

Logic

NE VAD

142

144

$e_i(n)$

Figure 13

130

$x_i(n)$

Adaptive Filter

118

-Adaptation

150

DTD

140B

$d_i(n)$

+

−

114

$e_i(n)$

Figure 14

130

$x_i(n)$

$d_i(n)$

Adaptive Filter 2

118B

Adaptive Filter 1

118A

114B

114A

$f_i(n)$

-Adaptation

150

140C

DTD

$e_i(n)$
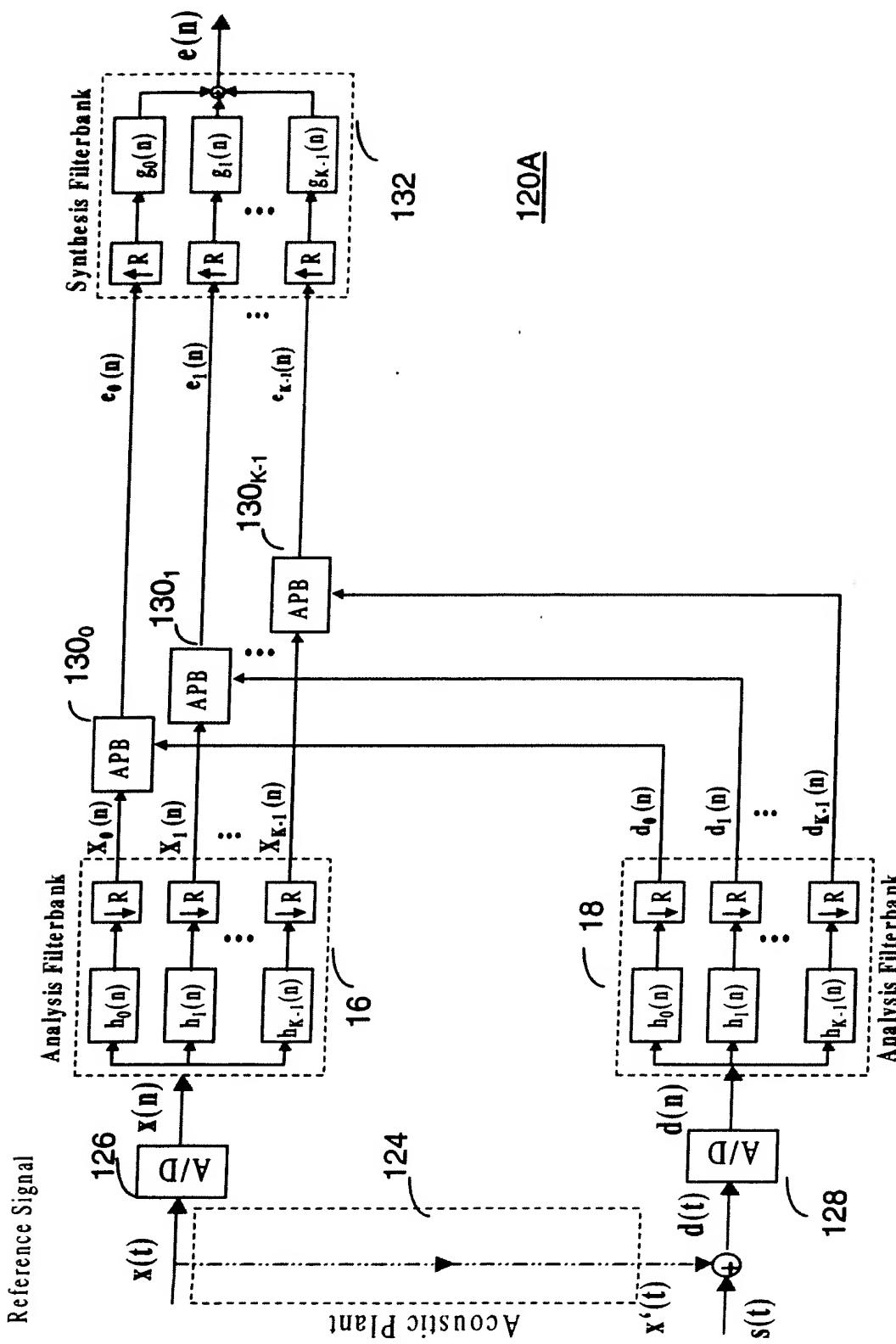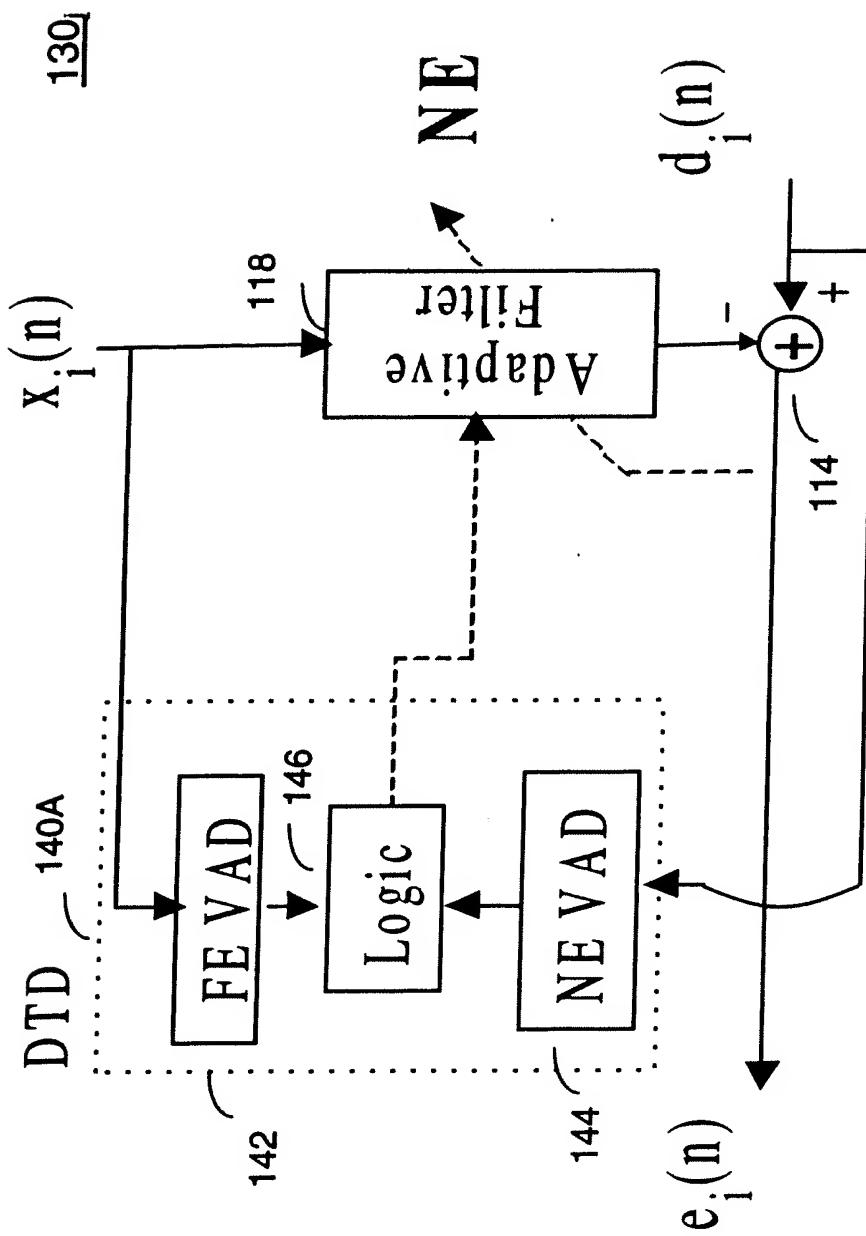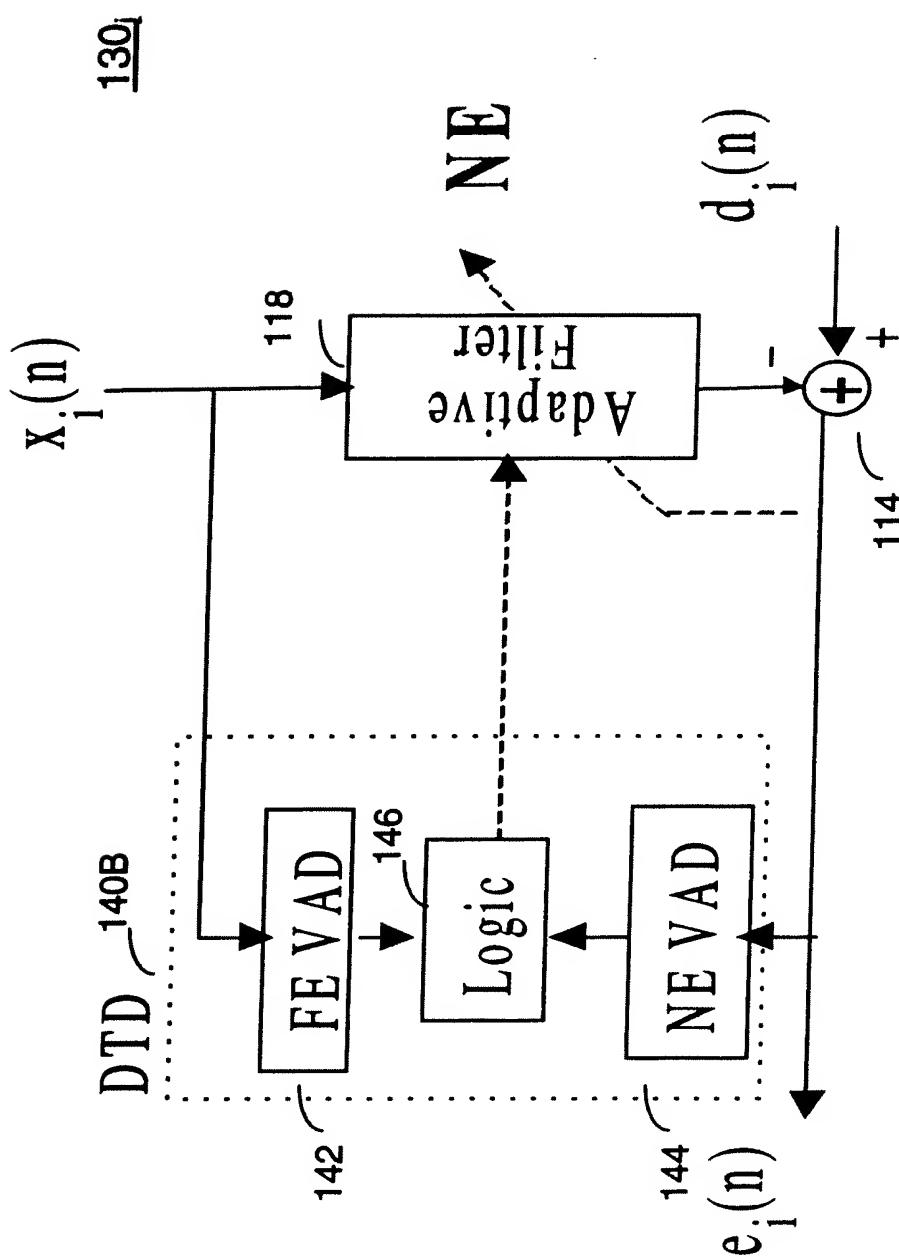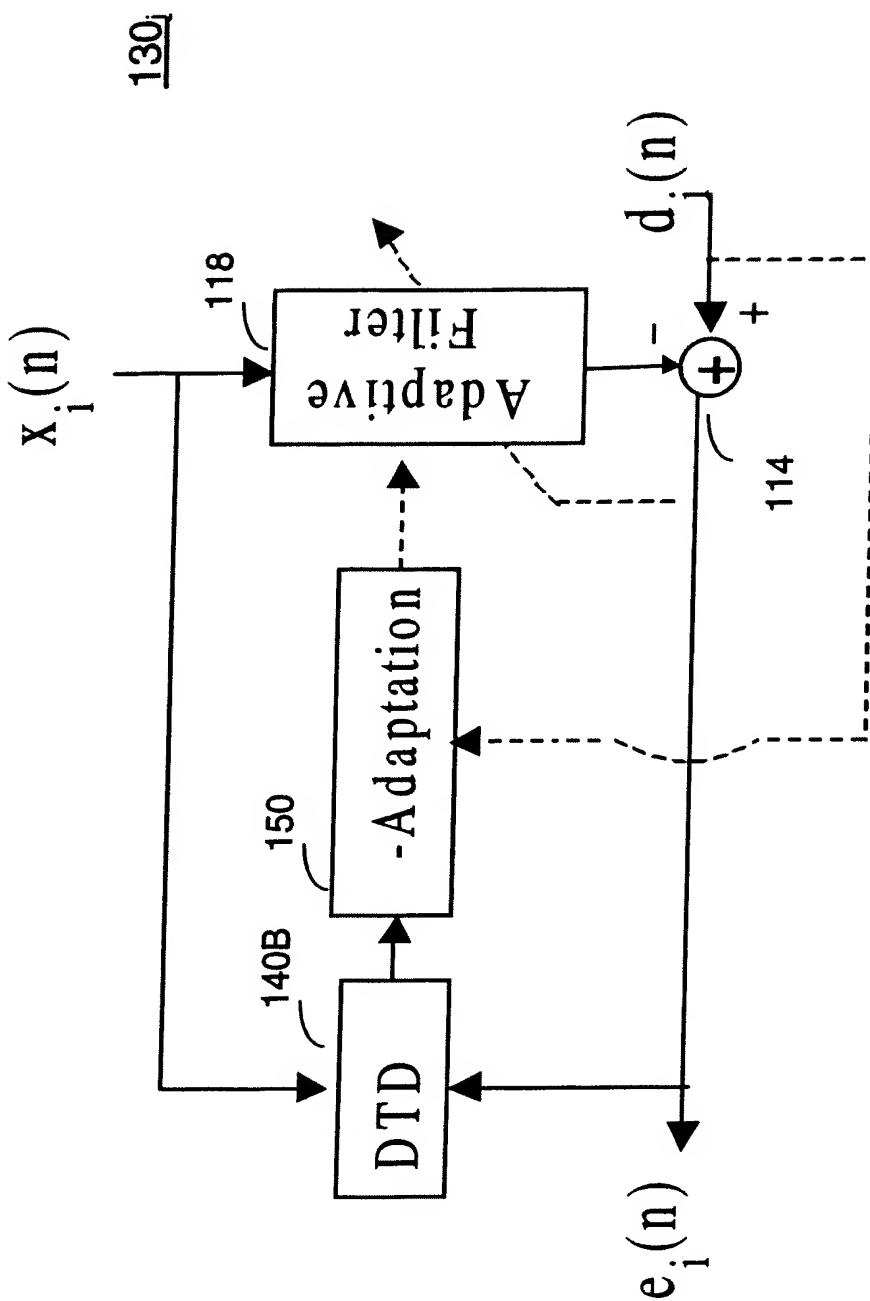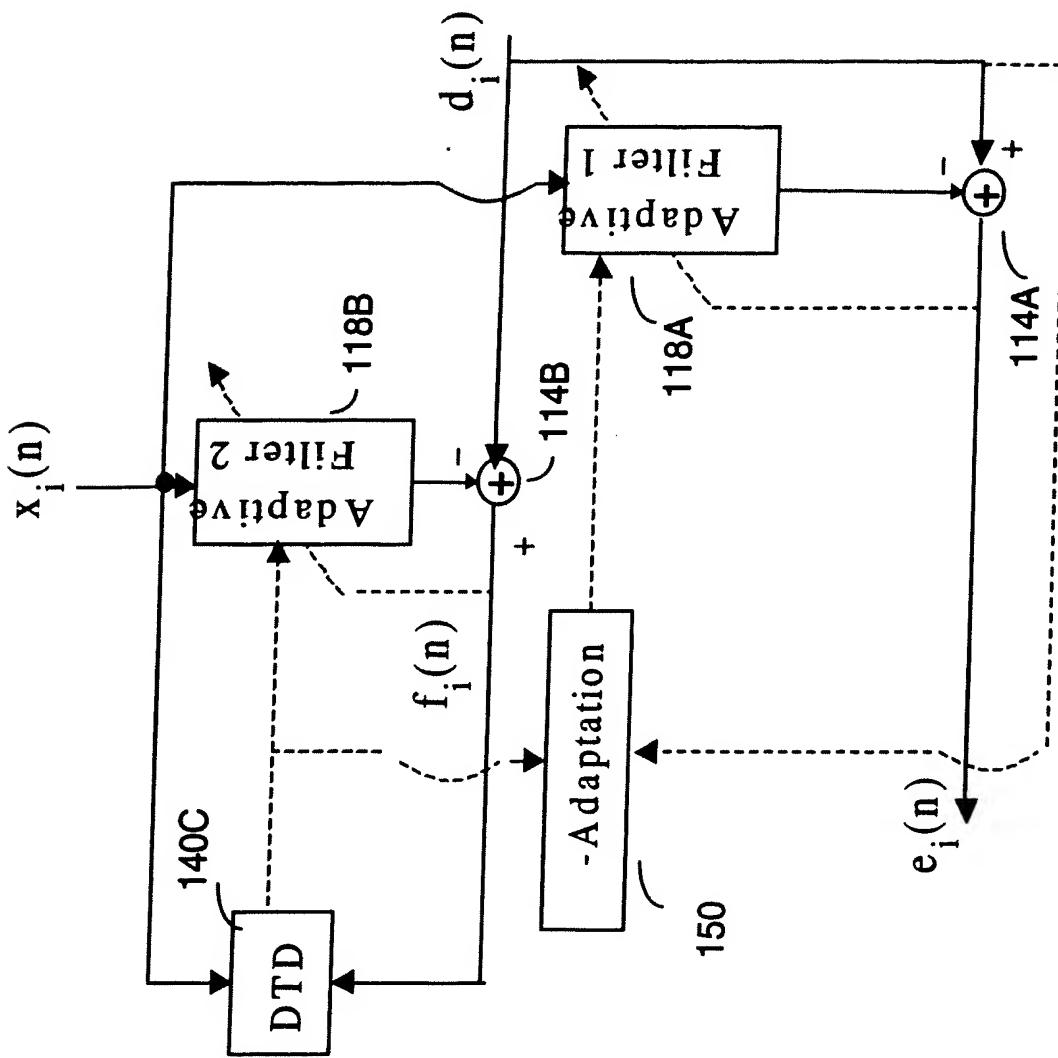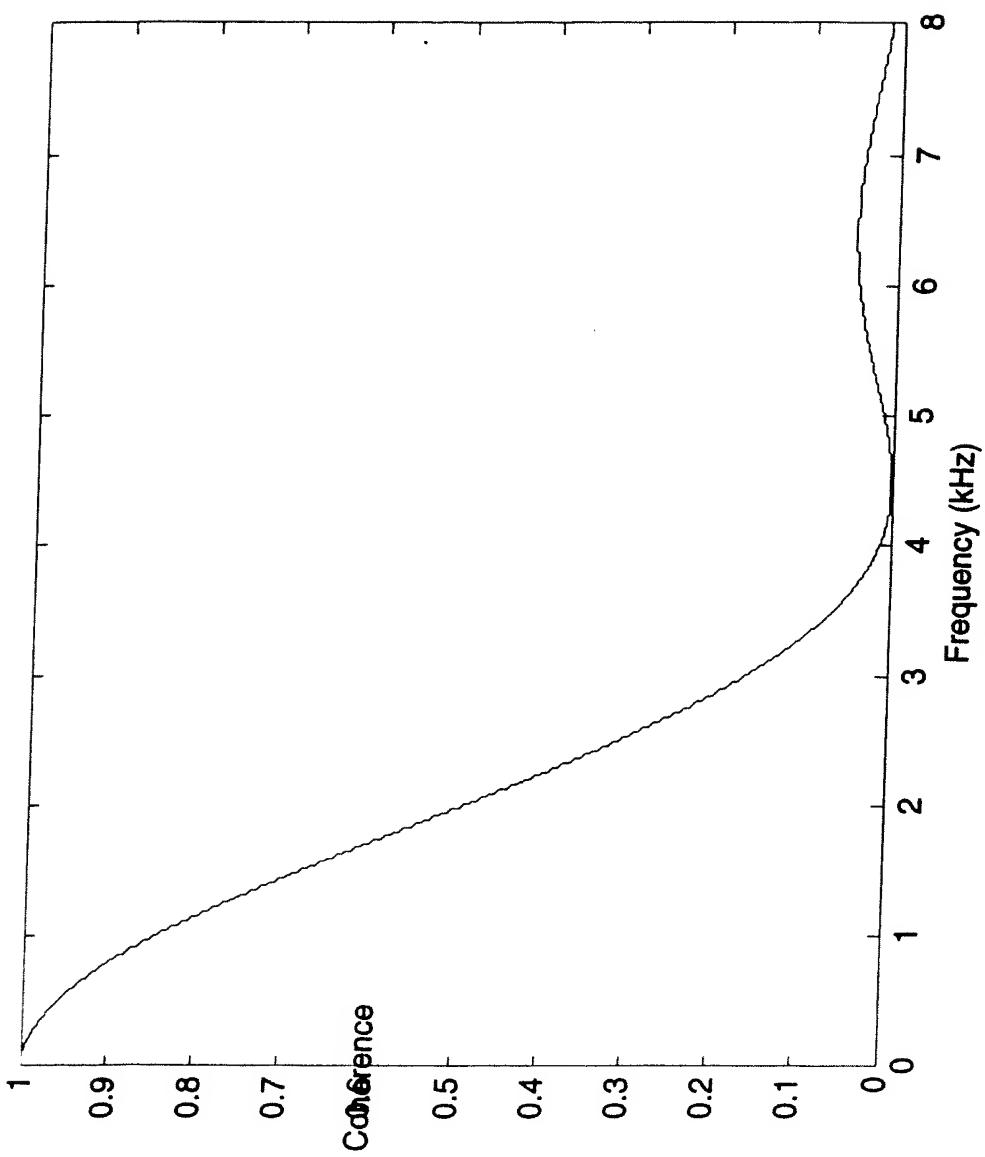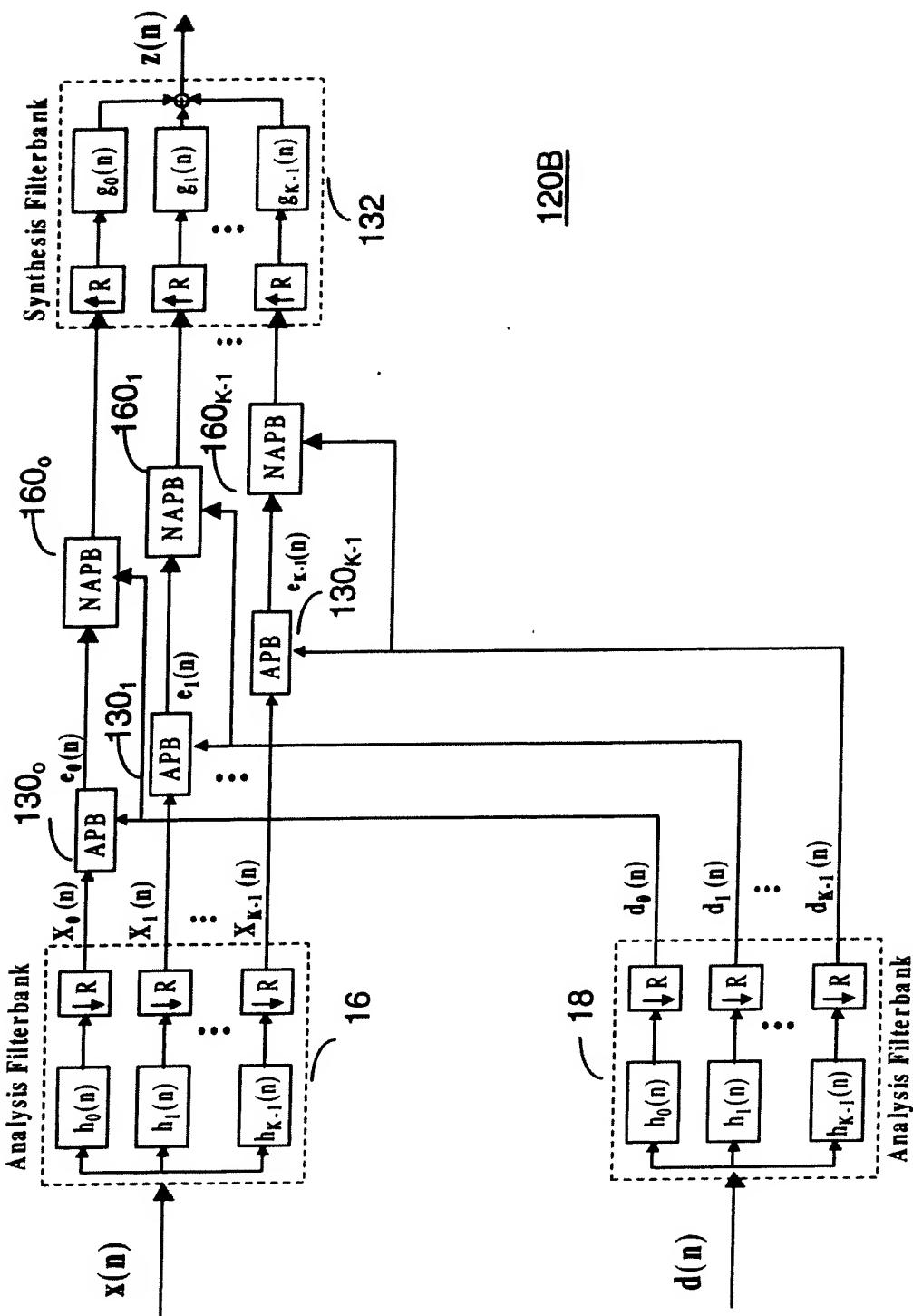
Figure 15

Figure 16

Figure 17
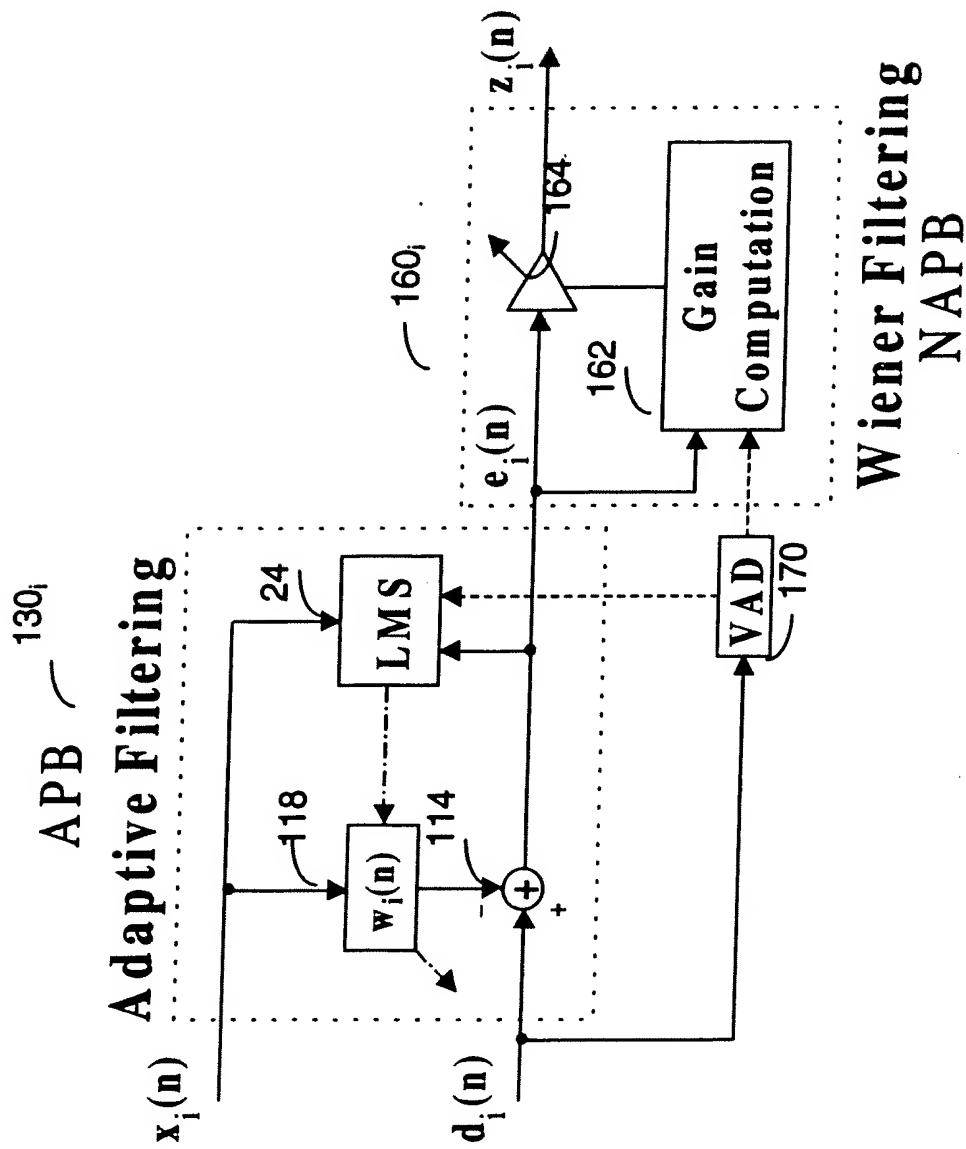
Figure 18
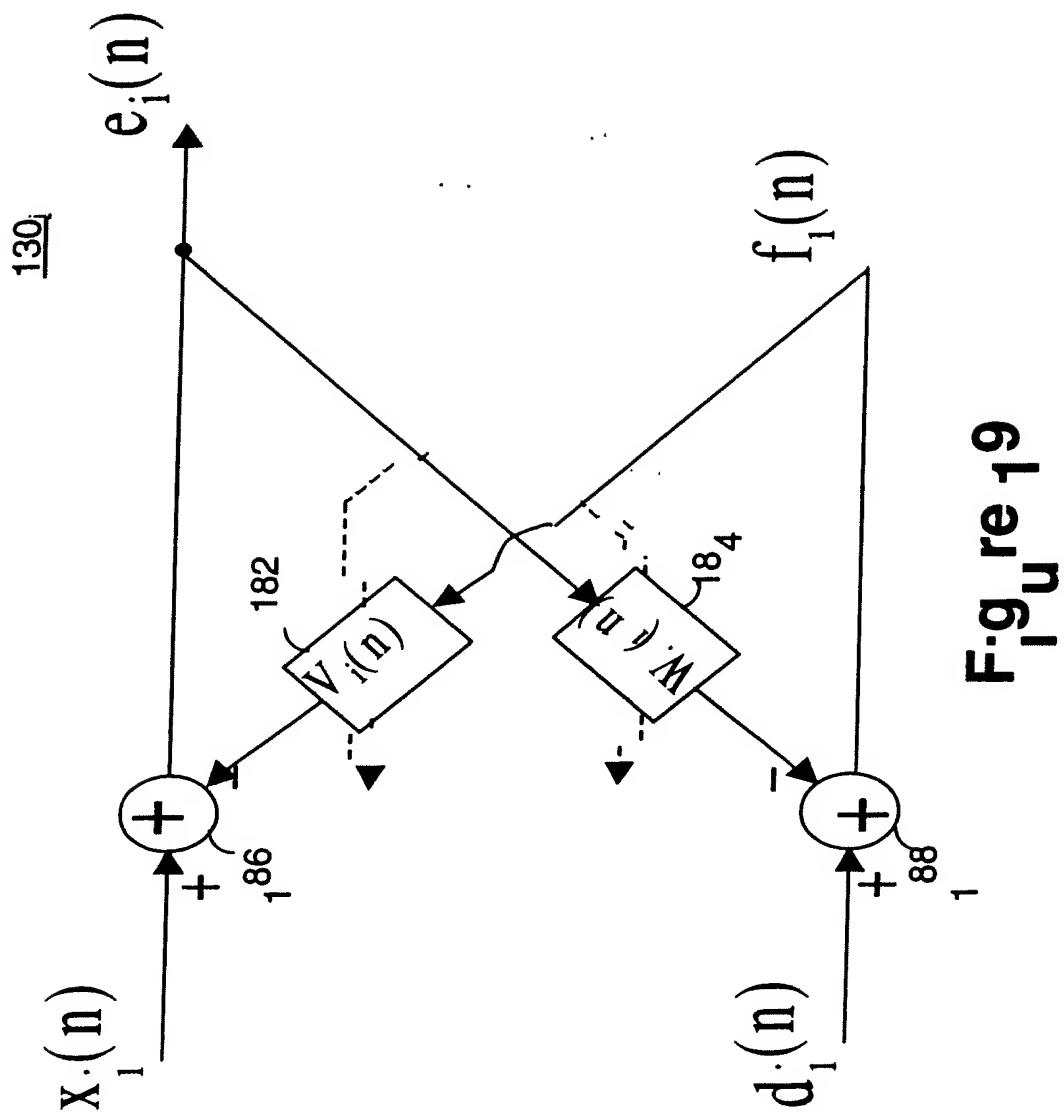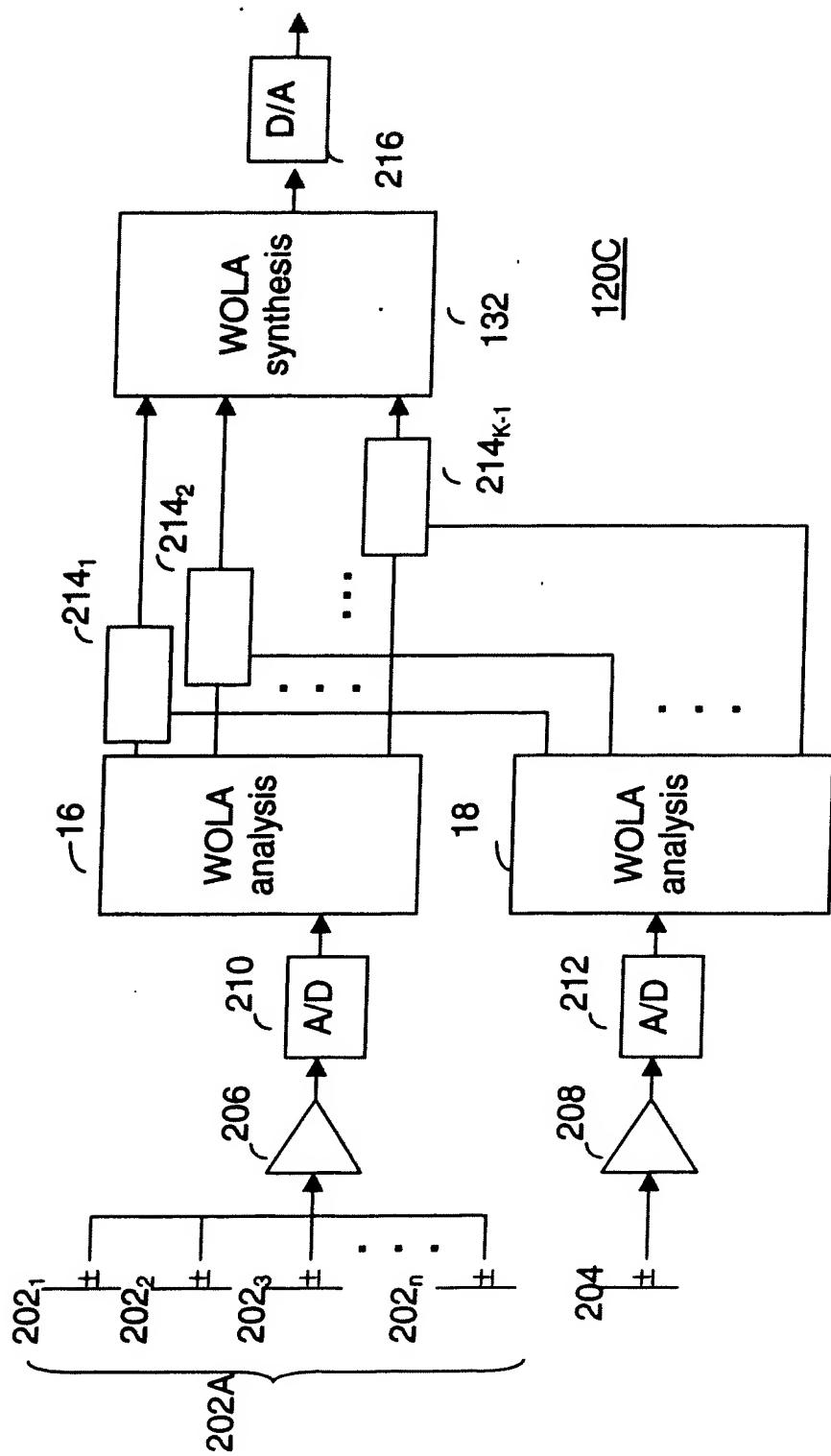
Figure 19
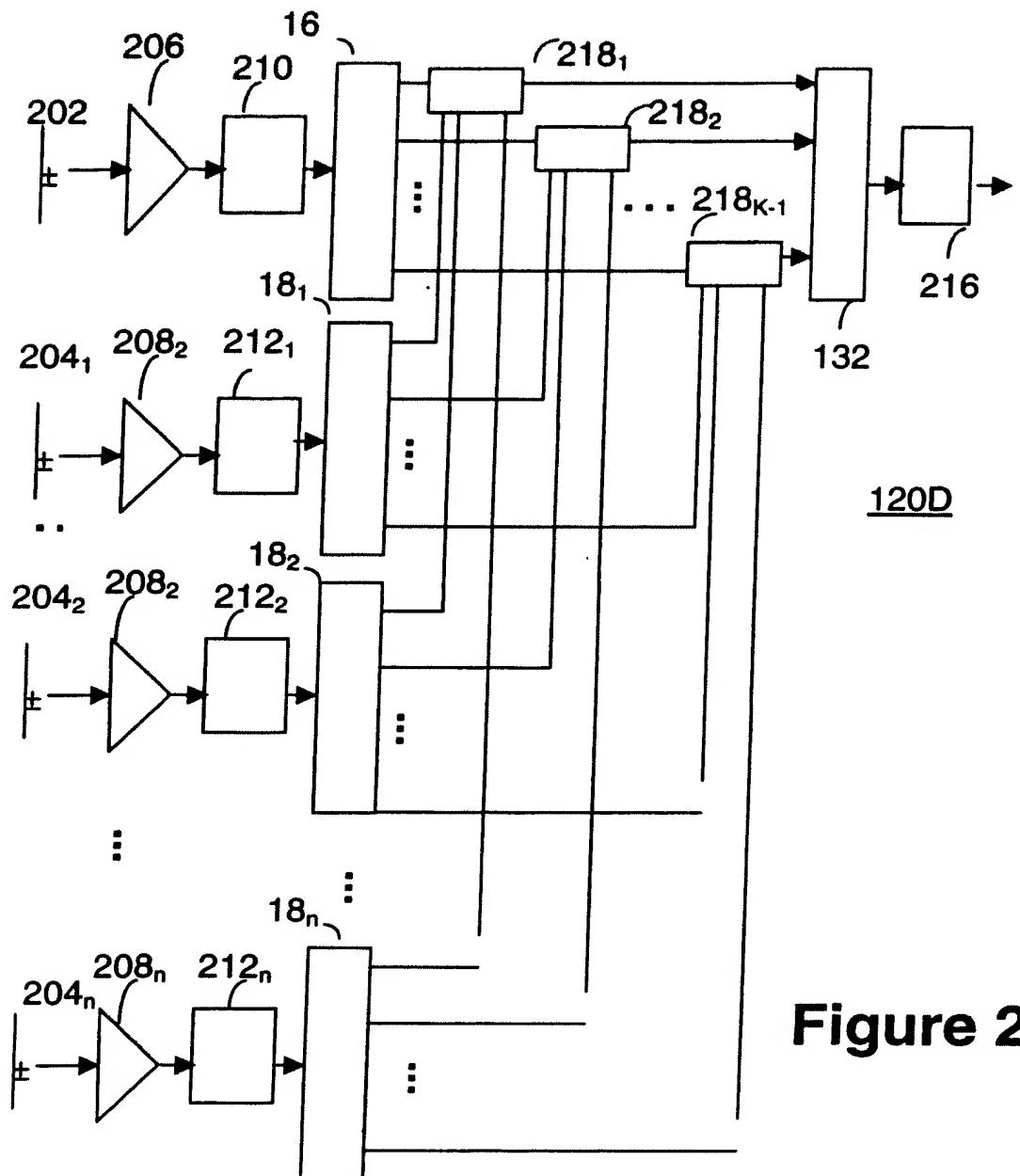
Figure 20

Figure 21
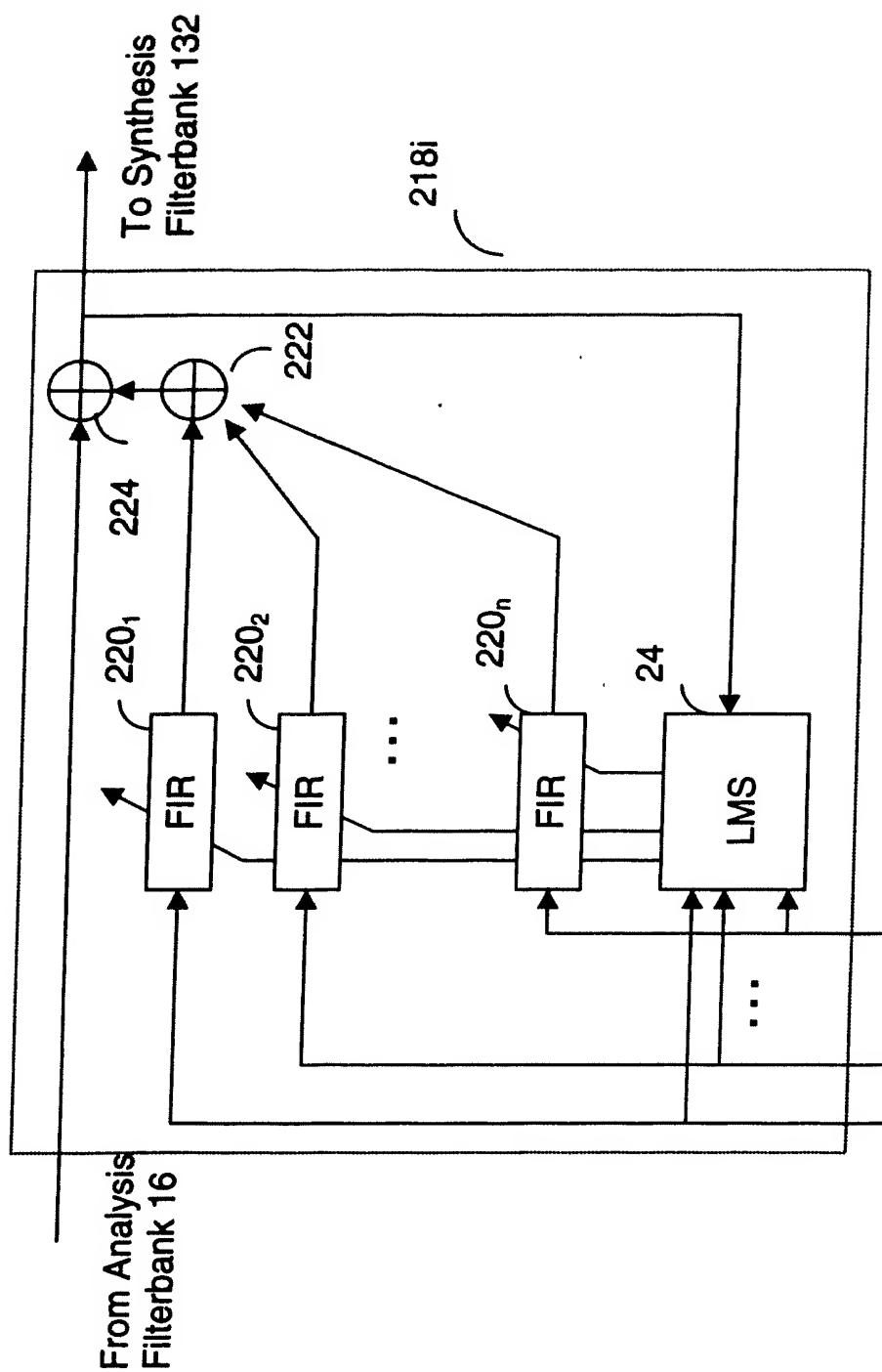
Figure 22
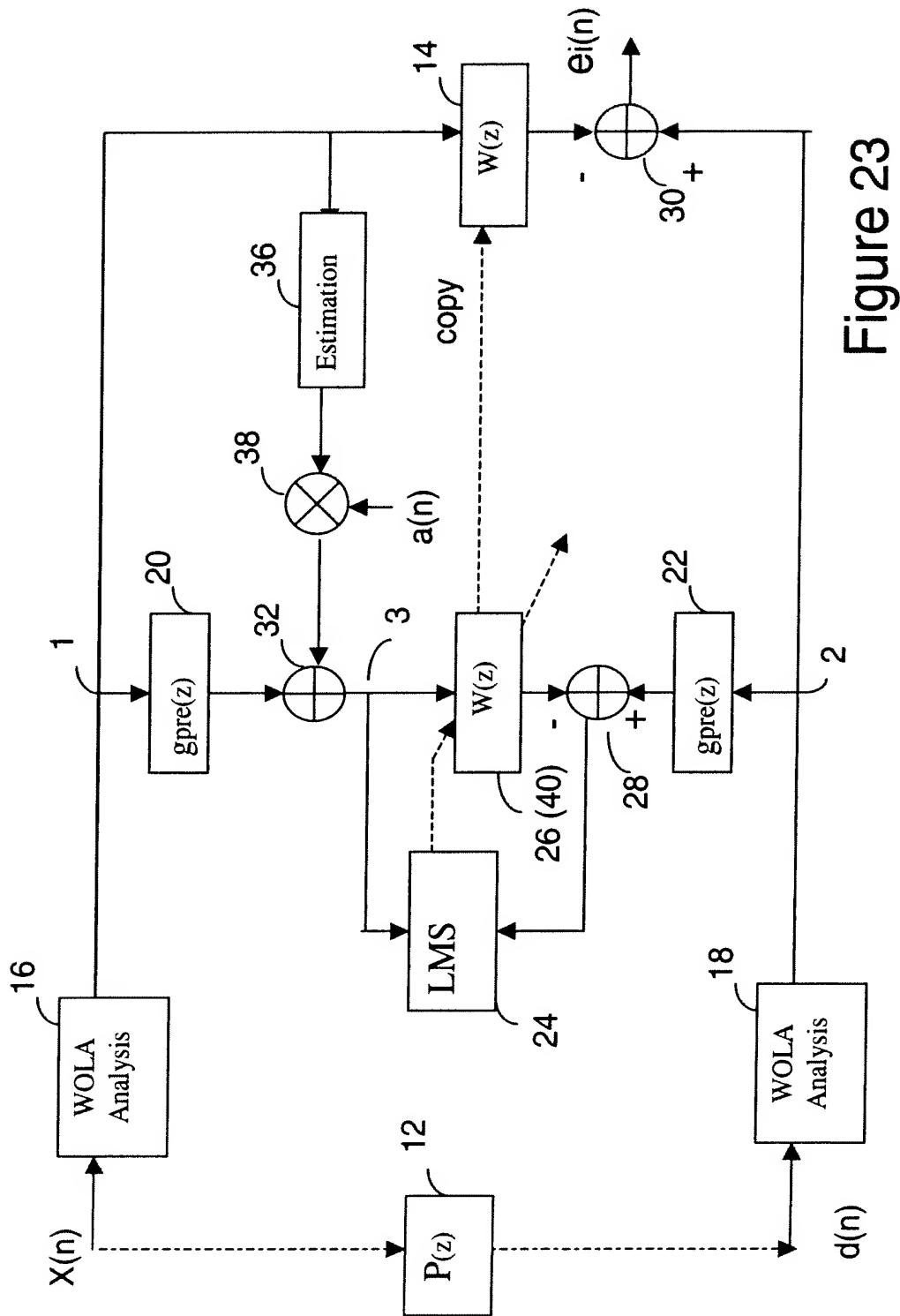
Figure 23
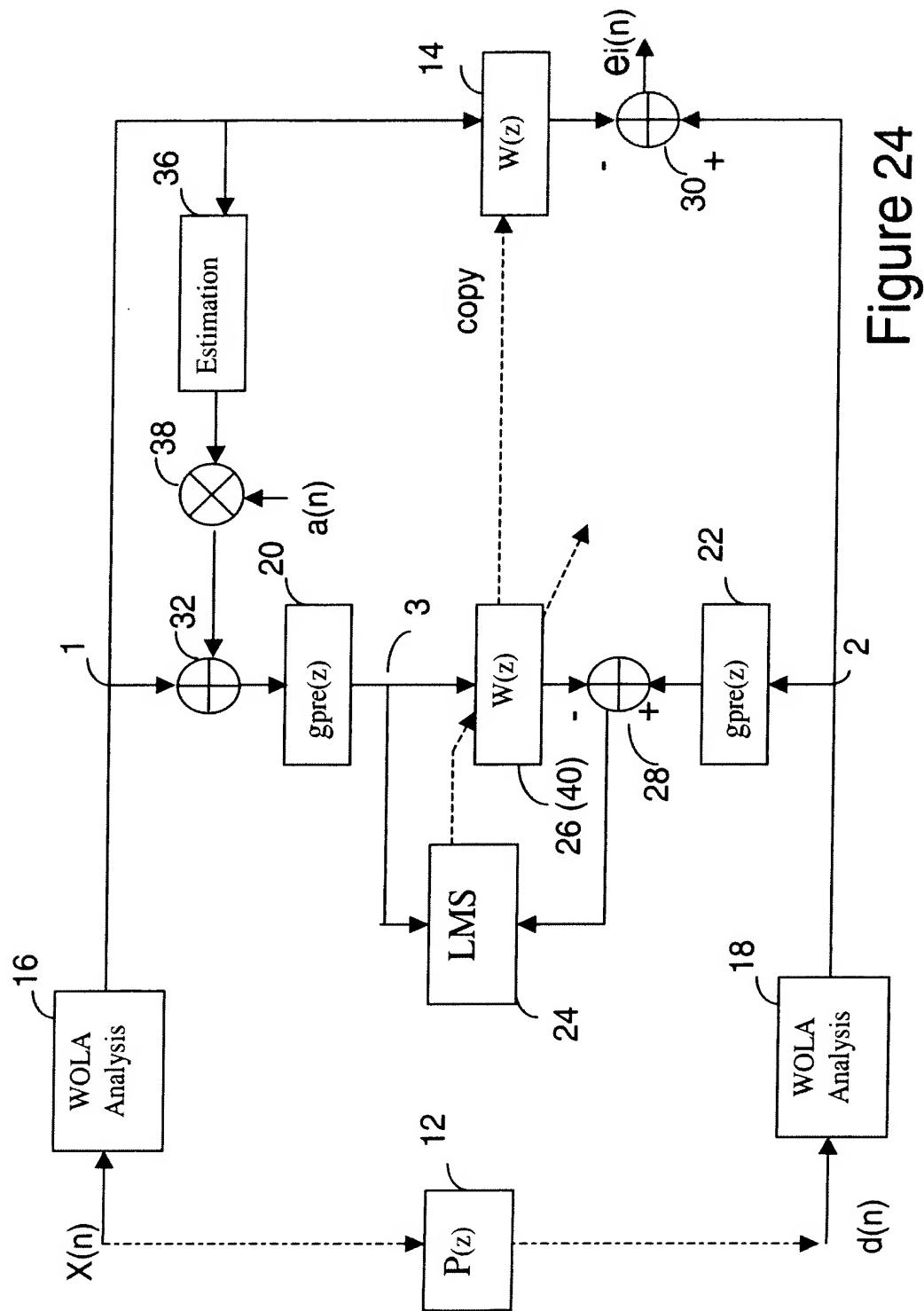
Figure 24
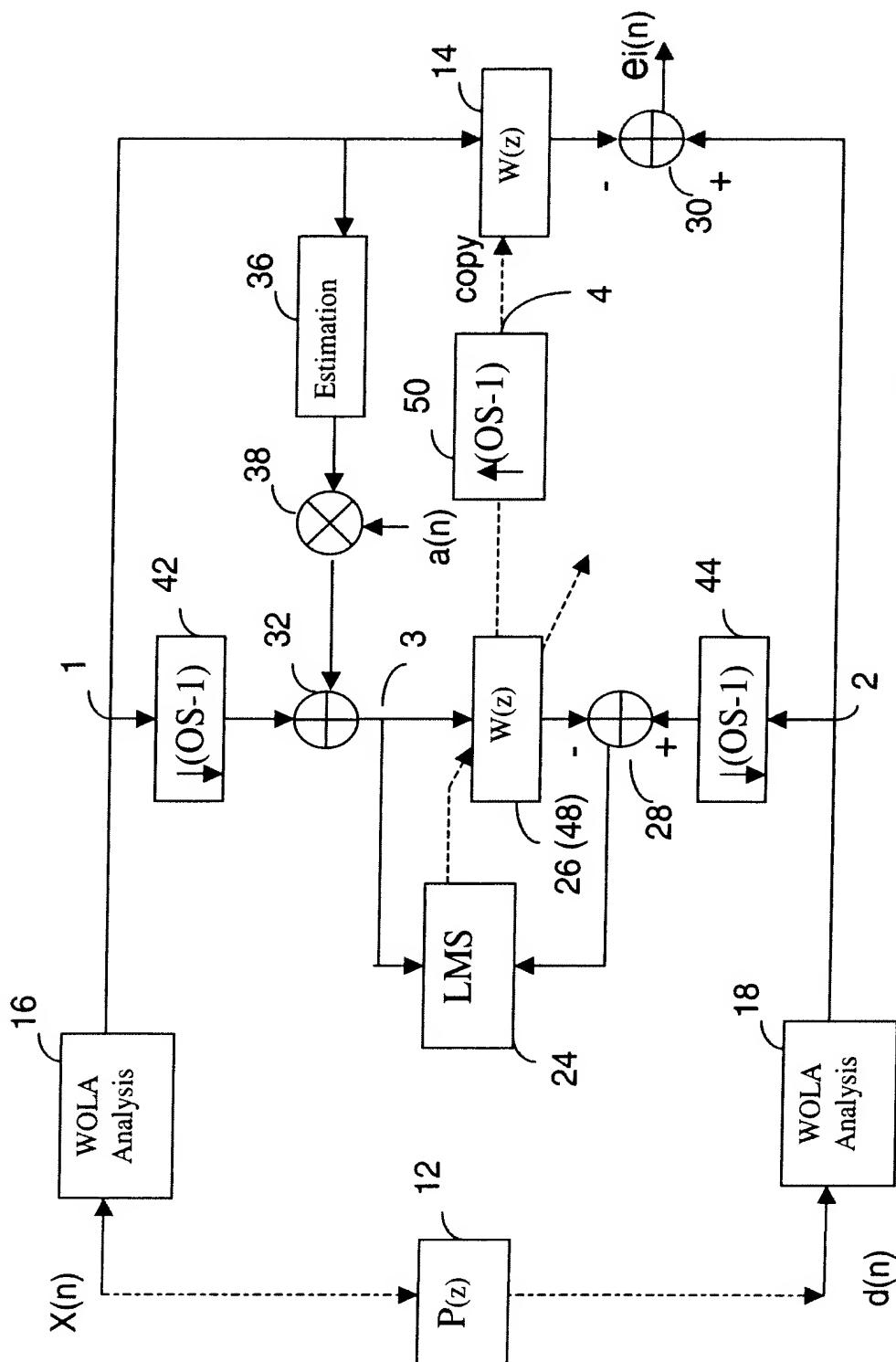
Figure 25
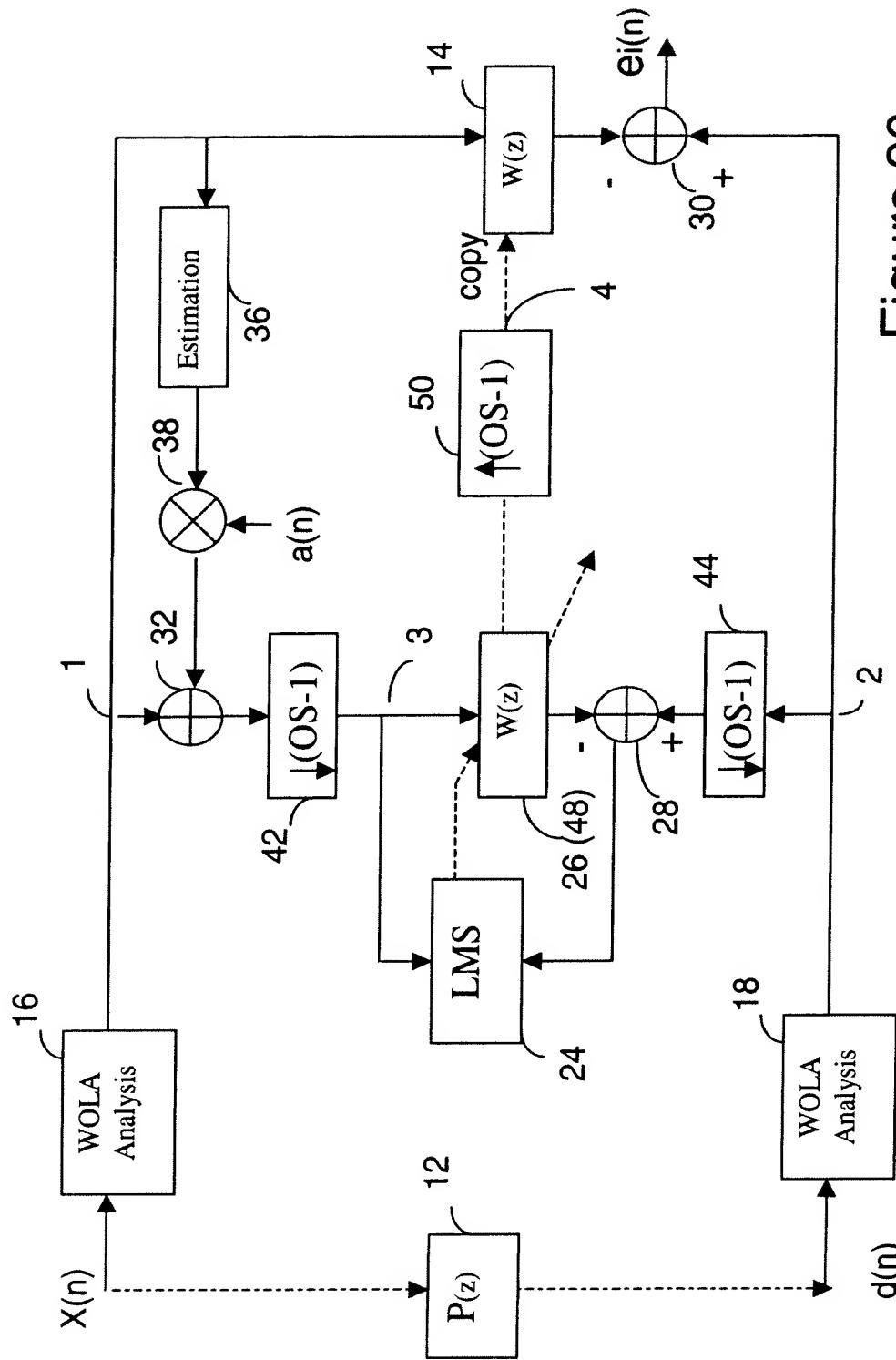
Figure 26
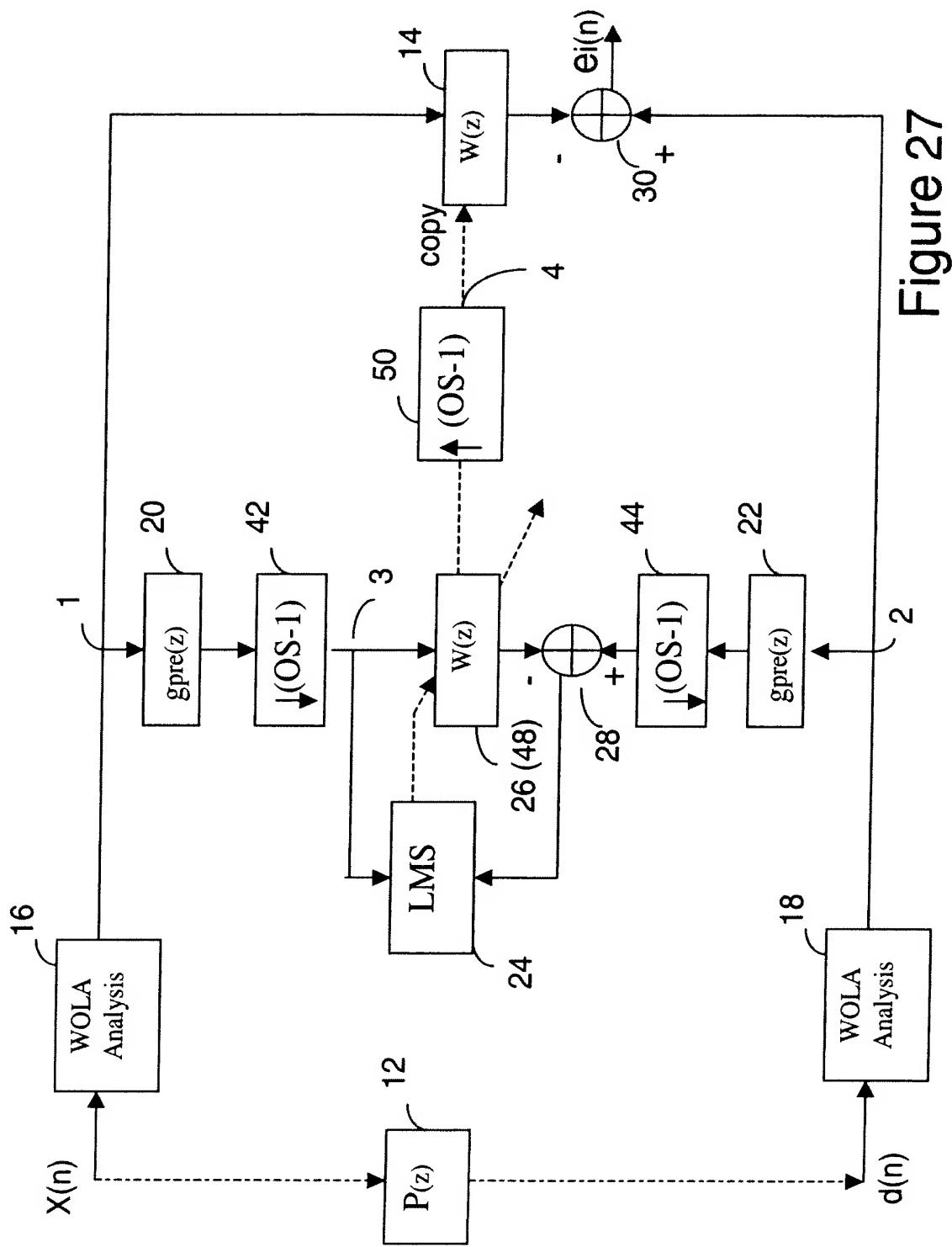
Figure 27
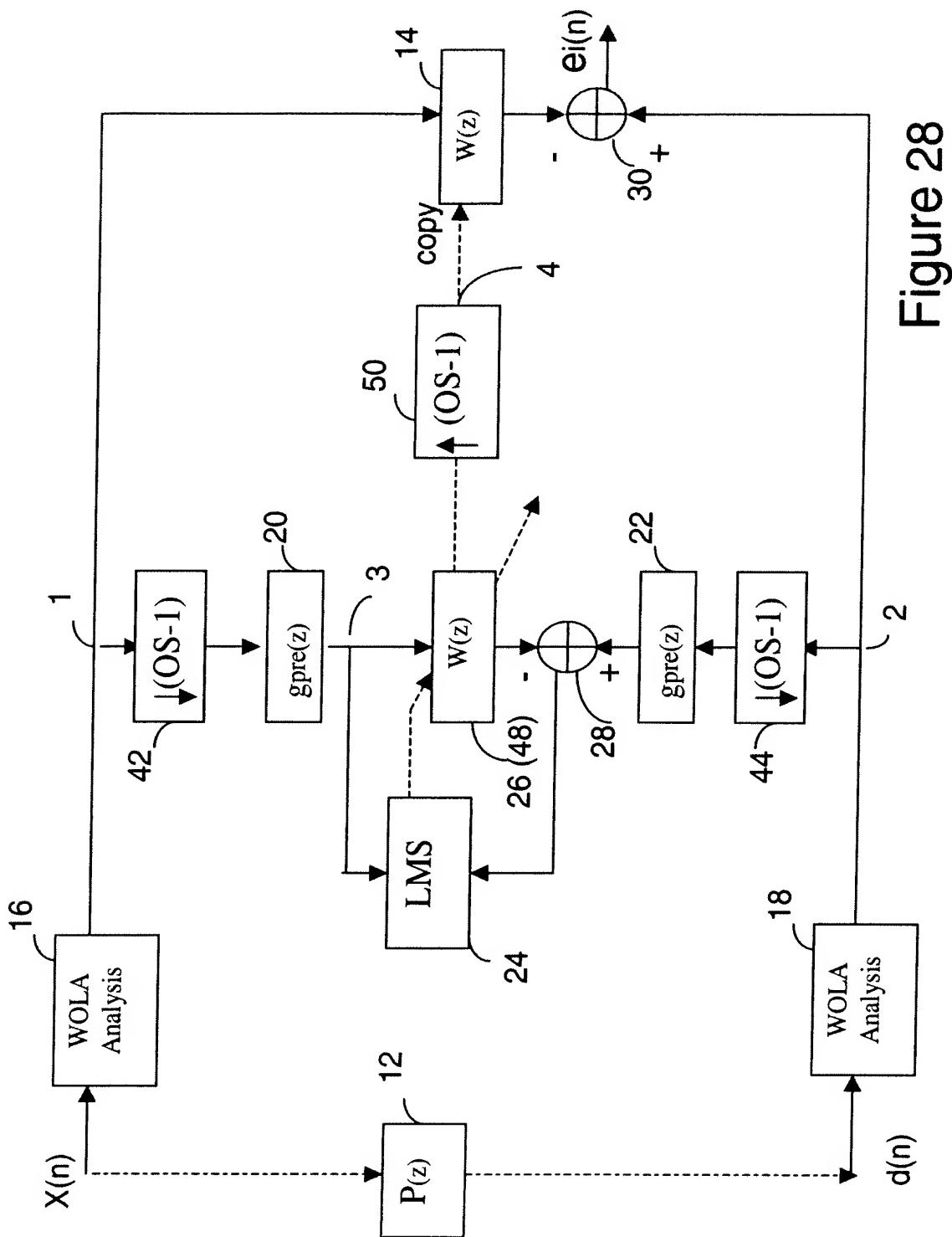
Figure 28
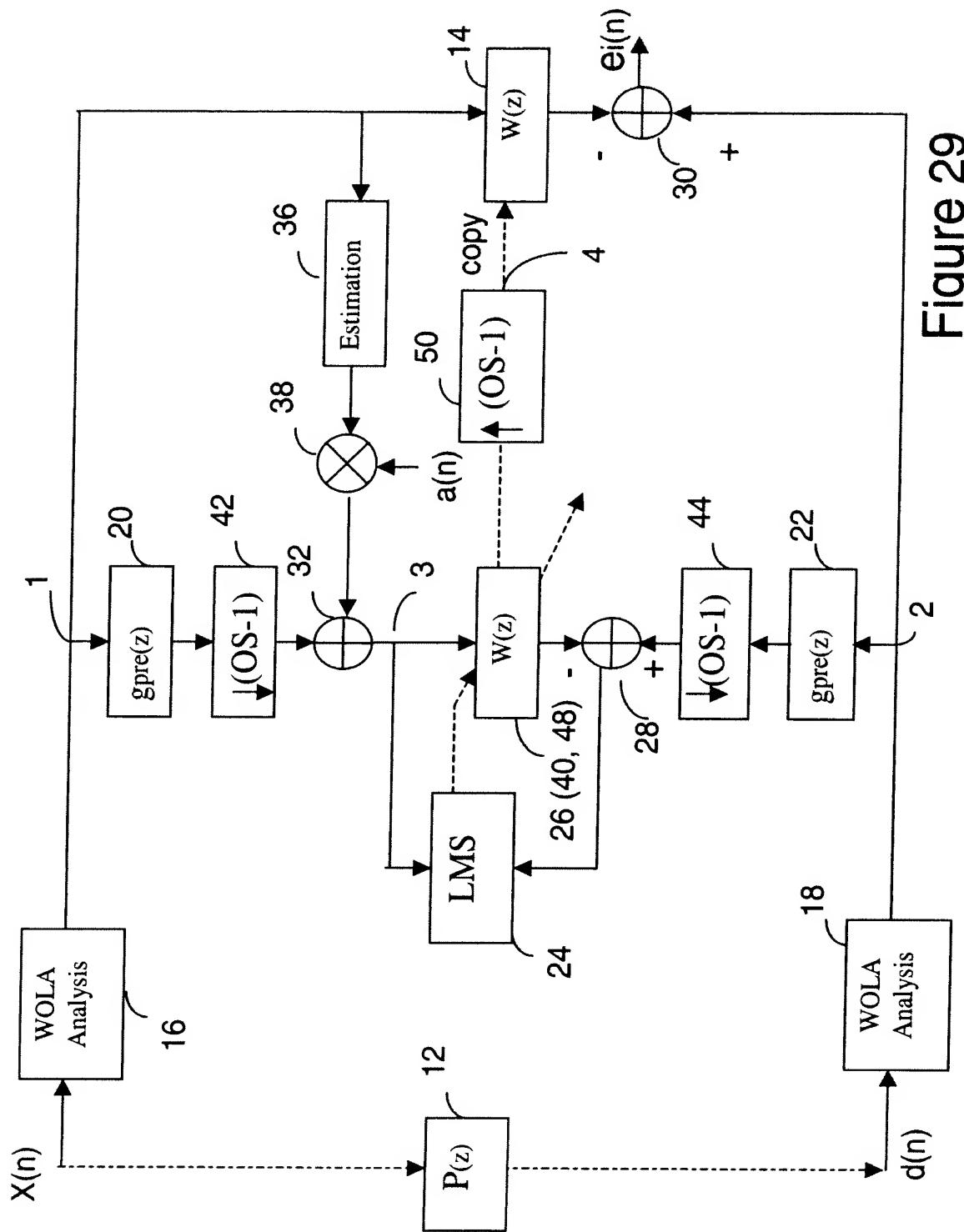
Figure 29
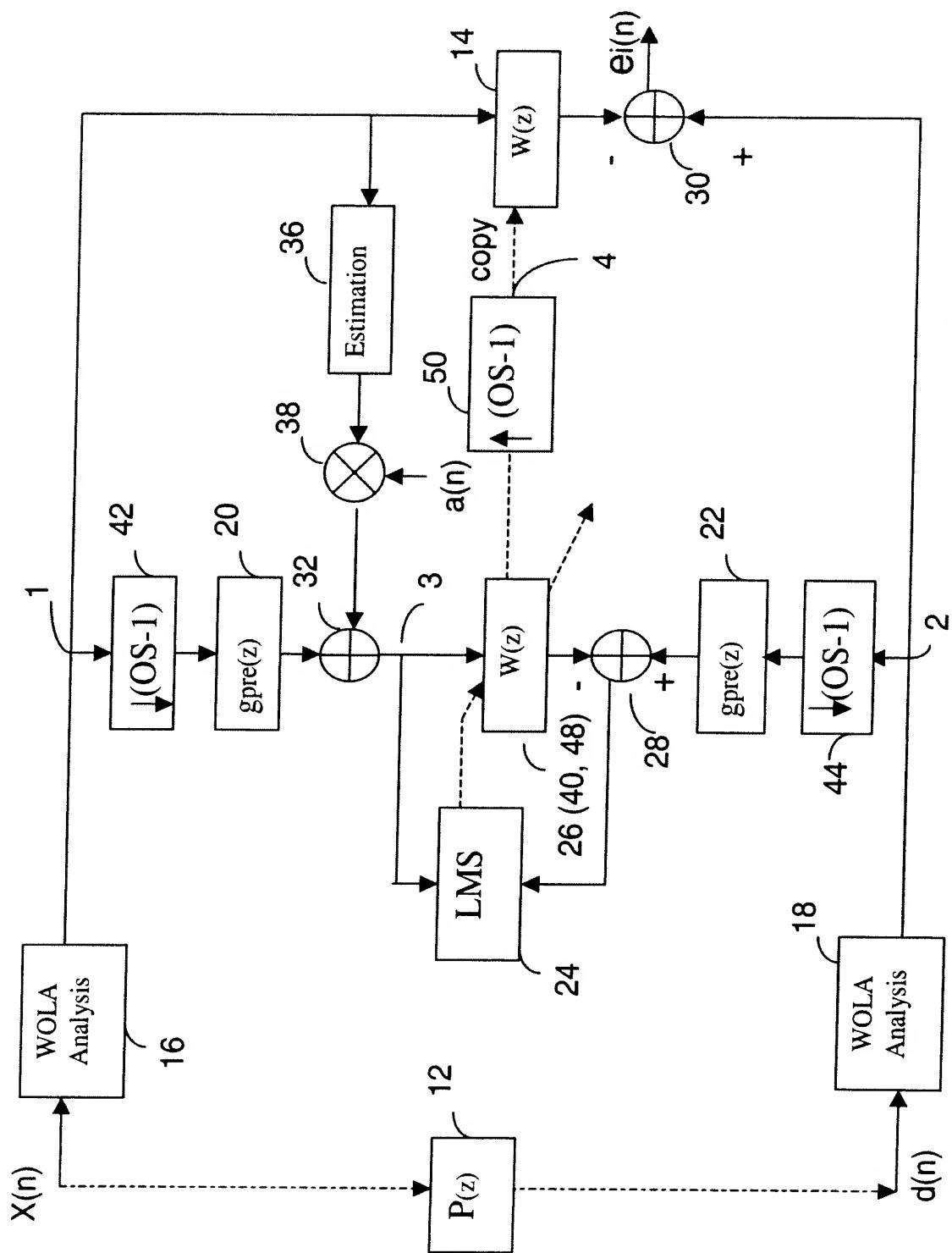
Figure 30

Figure 31

Figure 32